



Technical
Publication
DC13C
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Ceramic Capsule Silicon Diodes Type CXC13C

3100 amperes average: up to 3600 volts V_{RRM}

RATINGS Maximum values at 160°C, T_j , unless stated otherwise

RATING	CONDITIONS	SYMBOL	
Average forward current	Half sine wave $\left\{ \begin{array}{l} 55^\circ\text{C heatsink temperature} \\ \text{(double side cooled)} \\ 100^\circ\text{C heatsink temperature} \\ \text{(single side cooled)} \end{array} \right.$	$I_{F(AV)}$	3100A 1350A
R.M.S current	25°C heatsink temperature, double side cooled	$I_{F(RMS)}$	5600A
DC forward current	25°C heatsink temperature, double side cooled	I_F	4900A
Peak one-cycle surge (non-repetitive) of forward current	8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$	$I_{FSM} (1)$ $I_{FSM} (2)$	31800A 34980A
Maximum permissible surge energy	8.3ms duration $\left\{ \begin{array}{l} 60\% V_{RRM} \text{ re-applied} \\ V_R \leq 10 \text{ volts} \end{array} \right.$	$I_{2t}^2 (1)$ $I_{2t}^2 (2)$	4365000A ² s 5286500A ² s
Operating temperature range	3ms duration $V_R \leq 10 \text{ volts}$	T_{hs}	4000000A ² s -33 + 160°C
Storage temperature		T_{stg}	-40 + 200°C

CHARACTERISTICS Maximum values at 160°C, T_j , unless stated otherwise

CHARACTERISTIC	CONDITIONS	SYMBOL	
Peak forward voltage drop	At 6800A, I_{FM}	V_{FM}	1.95V
Forward conduction threshold voltage		V_O	0.875V
Forward conduction slope resistance		r	0.158mΩ
Peak reverse current	At V_{RRM}	I_{RRM}	60mA
Thermal resistance, junction to heat sink for a device with a maximum forward volt-drop characteristic	Capsule Single side cooled Double side cooled	$R_{th(j-hs)}$	0.032°C/W 0.016°C/W

VOLTAGE CODE	30	32	34	36					
Repetitive voltage V_{RRM}	3000	3200	3400	3600					
Non-repetitive voltage V_{RSM}	3100	3300	3500	3700					

ORDERING INFORMATION

(Please quote device code as explained below – 10 digits)

S	W	●	●	C	X	C	1	3	C
Fixed basic code	Voltage Code (see above)			Fixed outline code DO-200AD cold weld capsule			Fixed type code		

Typical code: SW32CXC13C = 3200V_{RRM} type CXC13C diode

In the interest of product improvement, Westcode reserves the right to change specifications at any time without notice.

DC13C

34 DE 9709955 0001496 4

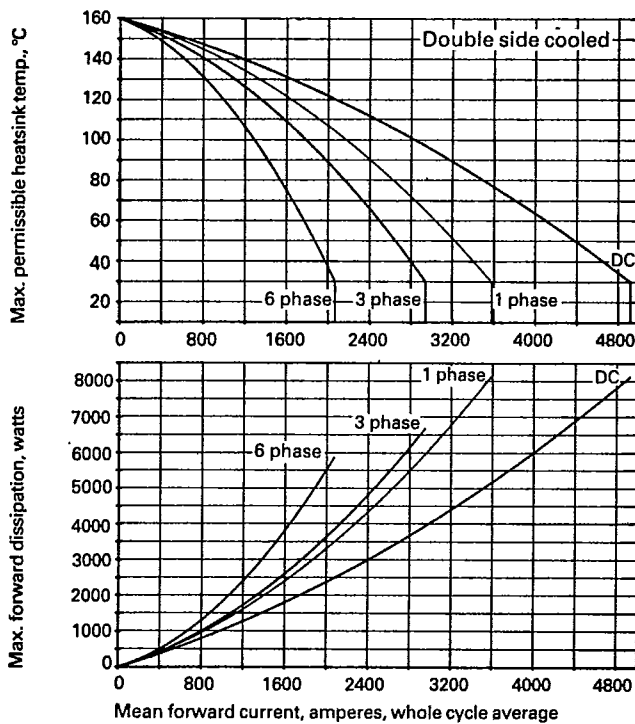


Figure 1 Dissipation/sink temperature v. mean forward current

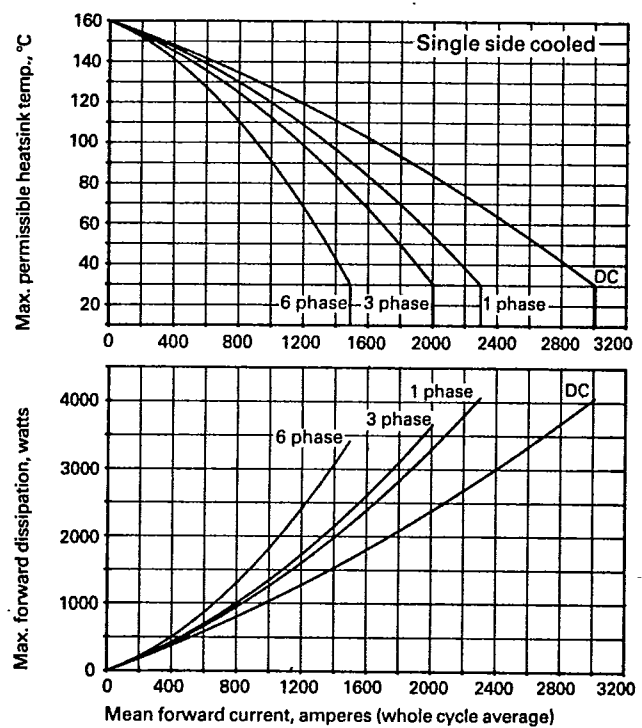


Figure 2 Dissipation/sink temperature v. mean forward current

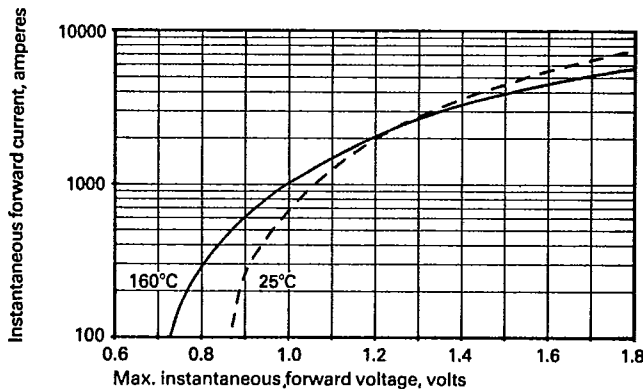


Figure 3 Forward voltage characteristic

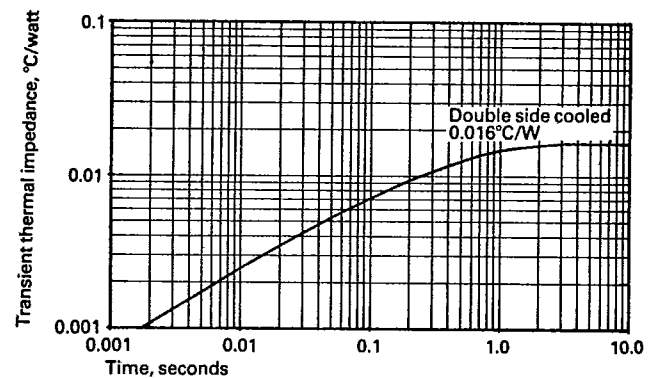


Figure 4 Transient thermal impedance, junction to heatsink

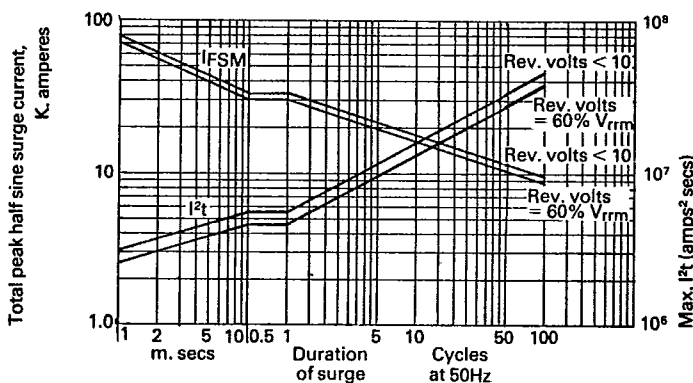
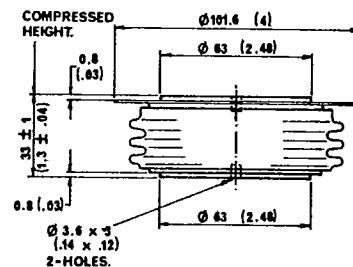


Figure 5 Max. non repetitive surge current at initial junction temperature 160°C



DO-200 AD

Dimensions in mm (inches)

Mounting force: 2700-3400 Kg

Weight: 1000 grams

WESTCODE SEMICONDUCTORS

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